

ABSTRACT

The present invention provides a method of determining three-dimensional structures of low-density materials referred to as soft materials meaning that their structures are disordered on an atomic scale but ordered on a meso-scale (from 20 to 500 angstroms) and, more particularly, a method of determining three-dimensional structures of soft materials by use of high-resolution transmission microscopy images. More specifically, the present method comprises steps of taking transmission electron microscopy images of a soft material sample in at least three crystallographically significant directions, and Fourier transforming each of the images photographed to evaluate amplitudes and phases of crystal structure factors, and further performing inverse Fourier transforms by use of those values to determine the space group of the soft material.